

AMENDMENTS TO THE CLAIMS

- 1-4. (cancelled).
5. (currently amended) A side pocket mandrel comprising:
  - a. an axially elongated tube having an enlarged diameter section
  - b. an inner volume formed in said enlarged diameter section
  - e. a filler material positioned in said inner volume, said filler material preventing cement from occupying a substantial volume within said inner volume while also allowing placement of a valve element, wherein the filler material comprises surface discontinuities that comprise transverse jet channels formed to induce fluid flow turbulence.
6. (Previously Amended) A side pocket mandrel as described by claim 10 wherein said filler material comprises surface discontinuities formed to induce fluid turbulence.
7. (Original) A side pocket mandrel as described by claim 6 wherein said surface discontinuities comprise surface upsets.
8. (cancelled)
9. (cancelled)
10. (currently amended) A side pocket mandrel comprising:
  - an axially elongated tube having an enlarged diameter section

- b. an inner volume formed in said enlarged diameter section
- c. a filler material positioned in said inner volume, said filler material preventing cement from occupying a substantial volume within said inner volume while also allowing placement of a valve element, wherein said filler material comprises a plurality of independent increments and A side pocket mandrel as described by claim 9 wherein each of said independent increments of filler material is separated from adjacent increments.

11. (Previously Amended) A side pocket mandrel as described by claim 10 wherein each of said independent increments of filler material is welded to a tube wall enclosing said inner volume.

12. (Previously Amended) A side pocket mandrel as described by claim 10 wherein said filler material is aligned in substantially parallel rows on opposite sides of said workspace channel.

13-14. (cancelled)

15. (Previously Presented) A side pocket mandrel as described by claim 5, wherein said filler material comprises a plurality of guide sections.

16. (Previously Presented) A side pocket mandrel as described by claim 5 further comprising a cylinder bore enclosure positioned in said inner volume.

17. (Previously Presented) A side pocket mandrel as described by claim 16, wherein at least one of said guide sections is positioned axially below said

cylinder bore enclosure.

18-26 (cancelled)-

27. (Previously Amended) A production string producing a fluid from a wellbore drilled in a subterranean formation, comprising:
  - (a) a production tube adapted to be at least partially cemented in the wellbore; and
  - (b) at least one mandrel positioned along said production tubing, the mandrel having an enlarged diameter section, a filler material positioned in said inner volume, said filler material preventing cement from occupying a substantial volume within said inner volume while also allowing placement of a valve element, wherein said filler material comprises a plurality of independent increments and wherein each of said independent increments of filler material is separated from adjacent increments.
28. (Previously Presented) The production string of claim 27, wherein the at least one mandrel includes an upper and a lower assembly joint each having a diameter smaller than a diameter of the enlarged diameter section, said upper and lower assembly joints separated by a length selected to maintain a pressure on a plug traveling through said mandrel.
29. (Previously Presented) The production string of claim 28 further comprising a guide positioned in said mandrel, said guide keeping said plug within a primary flow bore axis of said mandrel.

30. (Previously Amended) The production string of claim 28 further comprising a guide positioned in said mandrel, said guide keeping said plug within a primary flow bore axis of said mandrel.
31. (Previously Presented) The production string of claim 27 wherein said enlarged diameter section includes a channel for insertion of a valve element into said valve housing.
32. (Previously Presented) The production string of claim 27 wherein said enlarged diameter section has an interior volume that includes a surface discontinuity that induces the fluid flow turbulence.
33. (Previously Presented) The production string of claim 27 wherein said surface discontinuity includes one of (i) surface upsets, (ii) indentations, and (iii) transverse jet channels.